**Note-taking form for Earthquakes, Volcanoes, and Mountain Ranges Research and Technology Project**

**Name**: Ms. Martinez **Class:** All

**Partners or group members:** Me, Myself and I

**Your Geological Event (Earthquake, Volcano or Mountain Range):** Cascade Mountain Range

**Location (name, location and map coordinates):** North America

**Geological Processes:**

1. Type of boundary (convergent, divergent, or transform)

* 2 divergent (Juan de Fuca and Pacific, Gorda and pacific)
* 2 convergent ( North American plate and Juan de Fuca, North American and Gorda)

1. Type of plates involved (Oceanic or Continental)

* North American (Continental)
* Pacific (oceanic)
* Juan de Fuca (oceanic)
* Gorda (oceanic)

1. Any other geological processes at your location (hot spot, faulting, subduction,erosion, etc)

* Subduction
* Earthquakes
* Volcano
* Seafloor spreading

1. At least 1 image or diagram that helps illustrate the geologic processes

* <http://www.nature.nps.gov/geology/usgsnps/province/cascadefaultseis.gif>
* <http://upload.wikimedia.org/wikipedia/commons/thumb/4/4a/Cascade_Range_related_plate_tectonics-en.svg/500px-Cascade_Range_related_plate_tectonics-en.svg.png>

**Description and Characteristics (for a 4):** Describe your event (earthquake, volcano, mountain range). Be sure to include quantitative data as well as qualitative. How much,how often,how high, how deep,how old or young, etc. Find a photo of your event or geologic feature using Flickrcc or Wikimedia Commons.

* extend from Northern California to Oregon and Washington into Southern British Columbia.
* Are volcanic

**Patterns and Connections (for a 4):** How is your event related to other types of geological events in the region? What patterns do you see?

* Subduction zone creates volcanoes and earthquakes that still present a hazard
* <http://en.wikipedia.org/wiki/File:Cascadia_earthquake_sources.png>
* <http://en.wikipedia.org/wiki/File:Cascade_Range_map.png>

**Sources:**  
Copy and paste the links to ANY source you use, including links to images

* <http://www.nature.nps.gov/geology/usgsnps/province/cascade2.html>
* <http://www.pnsn.org/HAZARDS/welcome.html>
* <http://www.nature.nps.gov/geology/usgsnps/province/cascadefaultseis.gif>
* <http://upload.wikimedia.org/wikipedia/commons/thumb/4/4a/Cascade_Range_related_plate_tectonics-en.svg/500px-Cascade_Range_related_plate_tectonics-en.svg.png>
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**For Google Earth Tour**

**The Cascade Mountain Range Formation**

The Cascades are a volcanic mountain range that extends from Northern California to Oregon and Washington and even into Southern British Columbia. These are volcanic mountains that are formed by subduction. The subduction zone is caused by two convergent plate boundaries. One convergent boundary exists between the oceanic Juan de Fuca plate and the continental North American plate. The other convergent boundary is between the oceanic Gorda plate and the North American plate. The Juan de Fuca plate and the Gorda plate are being forced towards the North American plate because both plates form a divergent boundary with the oceanic Pacific plate. This means that the process of seafloor spreading is happening at each of these divergent boundaries.

**Patterns and Connections:**

The Cascade Mountain Range is very complicated when one looks at the tectonic activity that occurs in this area. Along with mountain formation, there is volcanic activity. There are even volcanoes, like Mount St. Helens, in this mountain system. This is because of the fact that these mountains are formed by a subduction zone which is the result of sea-floor spreading. In addition to Mount St. Helens, there are other active volcanoes in the Cascades that have the potential to erupt.  Mt. Ranier is an example of a Cascades volcano that, if it erupts, could be disastrous for the city of Seattle, Washington.  Tectonic activity has also produced earthquakes in the region.  Earthquakes and accompanying tsunamis are a significant threat to cities and towns along the Pacific Northwest coast, according to the [Pacific Northwest Seismic Network](http://www.pnsn.org/HAZARDS/welcome.html)

**Sources:**

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